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| 10/697,325 | 10/31/2003 | Takahiro Fukuhara | 244695US6X | 8519 |
| 22850 | 7590 | 05/16/2007 | | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER KRASNIC, BERNARD | |
| | | | ART UNIT 2624 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/697,325

Applicant(s)

FUKUHARA ET AL.

Examiner

Bernard Krasnic

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,7,10,13-15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,10,13-15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The amendment filed 3/12/2007 have been entered and made of record.

2. The Applicant has canceled claims 4-6, 8-9, 11-12, 16-17, and 19-40.

3. In response to the amendments filed on 3/12/2007:

The "Objections to the Specification" have been entered and therefore the Examiner withdraws the objections.

The "Objections to the Claims" have been entered and therefore the Examiner withdraws the objections to the claims.

The "Claim rejections under 35 U.S.C. 112, second paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, second paragraph.

4. Applicant's arguments with respect to claims 1-3, 7, 10, 13-15, and 18 have been considered but are moot in view of the new ground(s) of rejection by the Applicant's amendments toward independent claims 1, 10, 13, and 18.

The Applicant in pages 10-12 alleges that the amended independent claims 1, 10, 13, and 18, where the original claim limitation of "error correction encoding means in a packet or packets of a predetermined lower layer" was amended to read "error correction encoding means in a predetermined packet or packets" respectively, are now

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patentably distinguishable over the prior art ISO/IEC. However, the Examiner disagrees because even though the scope of the claim has been changed due to the amendment, it is understood by the Examiner that this change of scope has just broadened the independent claims. Since the Applicant did not disagree with the Examiner's initial rejection from the Examiner's Non-Final Office Action, the Examiner is led to believe that the initial rejection was proper; the Examiner's initial rejection as read from the Non-Final Office Action was "error correction encoding means (see page 13, section A.1.2, error resilience, section A.9, informational markers) in a packet or packets of a predetermined lower layer / tile, level, or sub-band (see page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer for which a symbol or marker will be embedded)" as disclosed in the prior art ISO/IEC. This rejection of this original claim limitation is narrower than the amended broader claim limitation, and may therefore still be used and interpreted to reject the amended broader claim limitation. The original claim limitation "packet or packets of a predetermined lower layer" definitely may be considered to be a "predetermined packet or packets" from the amended claim limitation because packet or packets of a predetermined lower layer are basically predetermined packet or packets of this lower layer. Therefore, the rejection will still be maintained and the claims are not patentably distinguishable over the prior art.

5. Applicant's arguments filed 3/12/2007 have been fully considered but they are not persuasive.

The Applicant alleges, "Turning now to the applied reference ..." in page 10 and "The outstanding Office Action at page ..." in page 11 and "Accordingly, it is respectively ..." in page 11, and states respectively that the amended limitation "error correction encoding means in a predetermined packet of packets" of claim 1 is no longer taught by the prior art ISO/IEC and therefore claim 1 and all claims depending therefrom are patentably distinguishable. However as discussed above, the Examiner disagrees and therefore, claim 1 and all the claims depending therefrom are not patentably distinguishable.

Similarly the Applicant alleges, "Independent Claim 10 ..." in page 11 and "As mentioned above, ISO/IEC fails to teach ..." in page 11, and states respectively that the amended limitation "error correction encoding means in a predetermined packet of packets" of claim 10 is no longer taught by the prior art ISO/IEC and therefore claim 10 is patentably distinguishable. However as discussed above, the Examiner disagrees and therefore, claim 10 is not patentably distinguishable.

Similarly the Applicant alleges, "Independent Claim 13 ..." in page 11 and "As mentioned above, ISO/IEC fails to teach ..." in page 11, and states respectively that the amended limitation "error correction encoding means in a predetermined packet of packets" of claim 13 is no longer taught by the prior art ISO/IEC and therefore claim 13 and all claims depending therefrom are patentably distinguishable. However as

discussed above, the Examiner disagrees and therefore, claim 13 and all the claims depending therefrom are not patentably distinguishable.

Similarly the Applicant alleges, "Independent Claim 18 ..." in page 11 and "As mentioned above, ISO/IEC fails to teach ..." in page 12, and states respectively that the amended limitation "error correction encoding means in a predetermined packet of packets" of claim 18 is no longer taught by the prior art ISO/IEC and therefore claim 18 is patentably distinguishable. However as discussed above, the Examiner disagrees and therefore, claim 18 is not patentably distinguishable.

Similarly the Applicant alleges, "Dependent Claim 7 depends ..." in page 12, and states respectively that neither prior art reference ISO/IEC or prior art reference Christopoulos cure the deficiencies of amended claim 1. However as discussed above, the Examiner disagrees and does believe that ISO/IEC does still teach the amended broader limitation of claim 1 and therefore, the rejection to claim 7 is still maintained.

The Applicant alleges, "Consequently, in view of the present amendment ..." in page 12, and states respectively that a notice of allowance for claims 1-3, 7, 10, 13-15, and 18 is earnestly solicited. However as discussed above, the Examiner disagrees and still maintains the rejections on claims 1-3, 7, 10, 13-15, and 18.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 10, 13-15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Information Technology – JPEG 2000 Image Coding System (ISO/IEC JTC 1/SC 29/WG 1 N1646R, from this point forward shall be referred to as ISO/IEC).

Re Claim 1: ISO/IEC discloses a picture encoding apparatus (see page 8, section 6.1, JPEG 2000 system for encoding) comprising arithmetic encoding means (see Annex C, arithmetic entropy coding) for applying arithmetic encoding to an input picture (page 8, section 6.1) to generate an encoded codestream; splitting means (see section F.1.2.1 high and low pass filters, sections B.4 - B.5, tiles, levels or layers are associated with sub-bands) for splitting said encoded codestream into a plurality of layers / tiles, layers or sub-bands; packet generating means (see sections B.8) for generating a plurality of packets from one layer / tile, level or sub-band to another; error correction encoding means (see page 13, section A.1.2, error resilience, section A.9, informational markers) for applying error correction encoding (section A.9, informational markers) to data of a header and/or a packet or packets of a predetermined one or more layers / tiles, levels, or sub-bands (see page 18, Fig. A-2, "required at each tile-part header"); and embedding means (see page 13, section A.1.2, types of markers and marker segments) for embedding an inspection symbol / marker generated by said error correction encoding means (see page 13, section A.1.2, error resilience, section A.9, informational markers) in a predetermined packet or packets (see page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer for which a symbol or marker will be embedded, therefore a packet or packets of a predetermined lower layer

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/ tile, level, or sub-band reads on a predetermined packet or packets because a packet or packets of a predetermined lower layer are basically the predetermined packet or packets of this lower layer).

The limitations, as recited in claim 1, lines 2, 4, 6, 8, and 10, "arithmetic encoding means", "splitting means", "packet generating means", "error correction encoding means", and "embedding means", invoke 35 USC 112, 6th paragraph.

As to claim 10, it differs from claim 1 in that claim 1 is an apparatus claim whereas claim 10 is a method claim. Therefore claim 10 is analyzed in the same manner as claim 1.

Re Claim 2: ISO/IEC further discloses predetermined one or more layers / tiles, levels, or sub-bands includes at least an uppermost layer / tile, level, or sub-band (see page 18, Fig. A-2, "required at each tile-part header" shows that an upper layer is an inherent layer for error correction encoding by use of markers).

Re Claim 3: ISO/IEC further discloses wherein said embedding means substitutes (see section B.9.3, zero length packet, zero substitutes for no code-blocks) said inspection symbol / marker for either data of said packet or packets of a lower layer (see page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer for which a symbol or marker will be embedded), a main header or a COM marker of a tile part header (see page 18, Fig. A-2, "required at each tile-part header", page 13,

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section A.1.2, section A.9), or a portion of a predetermined code block (see page 18, Fig. A-2, "required at each tile-part header", page 13, section A.1.2, section A.9) or a newly added encoding pass.

The limitation, as recited in claim 3, "embedding means", invokes 35 USC 112, 6th paragraph.

Re Claims 13: ISO/IEC discloses a picture decoding apparatus (see page 8, section 6.1, JPEG 2000 system for decoding), supplied with claim 1's respective encoded codestream (see above), and decoding the input encoded codestream to restore an input picture (see page 8, section 6.1, JPEG 2000 system for decoding), said apparatus comprising analysis means / means of specified procedures for analyzing said input encoded codestream (see page 8, section 6.1, JPEG 2000 system for decoding); extraction means for extracting said inspection symbol from said predetermined a packet or packets (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the extraction limitation is an inherent feature with respect to being the opposite of the embedding limitation of the encoder, page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer for which a symbol or marker will be embedded, therefore a packet or packets of a predetermined lower layer / tile, level, or sub-band reads on a predetermined packet or packets because a packet or packets of a predetermined lower layer are basically the predetermined packet or packets of this lower layer); error correcting decoding means

for applying error correction and decoding to data of the header and/or a packet or packets of one or more preset layers, using said inspection symbol (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the error correcting decoding means is an inherent feature with respect to being the opposite of the embedding a symbol using error correcting encoding); and decoding means for decoding the encoded codestream following the error correction and decoding (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the decoding means is an inherent feature with respect to being the opposite of the encoding before using the error correcting encoding limitation).

The limitations, as recited in claim 13, "analysis means", "extraction means", "error correcting decoding means", and "decoding means", invoke 35 USC 112, 6th paragraph.

As to claim 18, it differs from claim 13 in that claim 13 is an apparatus claim whereas claim 18 is a method claim. Therefore claim 18 is analyzed in the same manner as claim 13.

Re Claims 14: ISO/IEC further discloses said embedding means appends (see section B.9.1) said inspection symbol / marker to data of a packet or packets of said predetermined lower layer (see page 18, Fig. A-2, "required at each tile-part header"

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shows that a lower layer is an inherent layer for which a symbol or marker will be embedded). As to claim 14, it differs from this embedding means in that it is for an encoder and claim 14 is for a decoder (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the extracting means at the lowermost layer is an inherent feature with respect to being the opposite of the embedding means at the predetermined lower layer limitation). Other than this, claim 14 is analyzed in the same manner.

As to claim 15, it differs from claim 3 in that claim 3 is for an encoder and claim 15 is for a decoder (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the extracting means is an inherent feature with respect to being the opposite of the embedding means limitation). Other than this, claim 15 is analyzed in the same manner as claim 3.

The limitation, as recited in claim 15, "embedding means", invokes 35 USC 112, 6th paragraph.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over ISO/IEC in view of Christopoulos (IEEE vol. 46, pages 1103-1127, 2000, "The JPEG2000 Still Image Coding System: An Overview"). The teachings of ISO/IEC have been discussed above.

However, ISO/IEC fails to disclose or fairly suggest error correction encoding means sets the subject entity of the error correction encoding depending on an error rate of a communication channel on which said encoded codestream is transmitted.

Christopoulos discloses said error correction encoding means sets the subject entity of the error correction encoding depending on an error rate of a communication channel on which said encoded codestream is transmitted (see page 1118, section IV.5, Error Resilience).

Therefore, in view of Christopoulos, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the error rate of a communication channel in the error correction encoding means in order to improve the performance of transmitting compressed images.

The limitation, as recited in claim 7, lines 1-2, "error correction encoding means", invoke 35 USC 112, 6th paragraph.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Bernard Krasnic
May 9, 2007



JINGGE WU
SUPERVISORY PATENT EXAMINER